UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte DAVID L. MARVIT, ALBERT H.M. REINHARDT, and
THOMAS D. ADLER

_____

Appeal 2009-005847
Application 10/807,561
Technology Center 2600

_____

Decided: April 28, 2010

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Before ROBERT E. NAPPI, KARL D. EASTHOM, and THOMAS S.
HAHN, *Administrative Patent Judges.*

EASTHOM, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the final rejection of claims 1-20, the only claims pending. (App. Br. 4).[1] We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

Appellants invented a motion controlled handheld device such as a computer having a display screen. Instead of using keys to operate the device, the device detects motions using, *inter alia*, cameras, accelerometers and gyros in one of two modes. One mode detects initial and final location differences of the moving device, while the other mode tracks motion patterns of the moving device. The motion patterns are stored as "gestures" in the device for comparison to tracked movement. An image on the display is modified according to the detected differences and patterns (depending on the selected mode). The mode can be selected by a trigger switch. (Abstract; Spec. 8:9-30; Fig.2.)

Exemplary claim follows:

1.   A motion controlled handheld device comprising:
a display having a viewable surface and operable to generate a current image;
a gesture database maintaining a plurality of gestures, each gesture defined by a motion of the device with respect to a first position of the device;
a gesture mapping database comprising a mapping of each of the gestures to an associated command;
a motion detection module operable to detect motion of the device within three dimensions and to identify components of the motion in relation to the viewable surface;
a display control module having a first mode of motion input

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[1] Appellant's Brief ("App. Br.") and Reply Brief ("Reply Br."), and the Examiner's Answer ("Ans."), are referenced in this opinion.

operation and a second mode of motion input operation;

the display control module operable in the first mode of motion input operation to monitor the motion of the device, to determine a location of the device resulting from the motion, and to modify the current image based on the resulting location of the device as compared to an initial location of the device prior to the motion of the device;

the display control module operable in the second mode of motion input operation to monitor the motion of the device, to track movement of the handheld device using the motion detection module, the tracked movement identifying a path traveled by the device, to compare the path with the gestures to identify a matching gesture, to identify one of the commands associated with the matching gesture, and to modify the current image based on the identified command; and

a mode selection module operable to detect a mode selection trigger and to switch between the first mode of motion input operation and the second mode of motion input operation in response to detecting the mode selection trigger.

The Examiner relies on the following prior art references:

| Ide | US 5,598,187 | Jan. 28, 1997 |
| Lapidot | WO 01/86920 A2 | Nov. 15, 2001 |

The Examiner rejected claims 1-20 as obvious under 35 U.S.C. § 103(a) based on Ide and Lapidot.

ISSUES

Appellants contend that the Examiner erred in combining Ide and Lapidot. (App. Br. 8-15.) Appellants contend that "*Ide's* disclosure clearly teaches away from a combination with *Lapidot* that would place a monitor on the mouse because there is no motivation to do so." (App. Br. 17.) Appellants based this contention on the assertion that Ide's spatial control device, which Appellants describe as a mouse (without a display

screen/monitor), controls a cursor on another device which has a display screen/monitor. (App. Br. 13-17.) Appellants contention raises the following issue with respect to claim 1: Do the combined teachings of Ide and Lapidot render obvious a display control module having a viewable display?

Appellants also contend that claims 3 and 12, and 4 and 13, are separately patentable because the prior art does not disclose or suggest, respectively, changing a state of the device when the device switches applications and current images. (*See* App. Br. 18-19.) Appellants also contend that claims 6 and 8 are separately patentable because the prior art does not disclose or suggest, respectively, a mode selection comprising a gesture and a third mode of operation. (*See* App. Br. 19-20.) Appellants' contention raises the following issue: Has Appellant demonstrated that the Examiner erred in finding that the combined teachings of Ide and Lapidot render obvious the disputed limitations of claims 3, 4, 6, 8, 12, and 13?

<div align="center">FINDINGS OF FACT (FF)</div>

<div align="center">*Ide*</div>

1. Ide discloses "a spatial control mouse to position the cursor on a screen" (col. 6, ll. 47-48) of, for example, a laptop computer, multimedia device, or other display unit. (Col. 7, ll. 50-51; col. 15, ll. 61-65. Figs. 1-3.)

Besides remotely controlling another display device, Ide states: "In addition, it is possible to incorporate the mouse in a device or tool operated by the operator, and sense the motion pattern of the device or tool." (Col. 15, ll. 54-57.)

2. Ide's mouse switches between two types of control, a pointer mode, and a motion pattern input mode. (Col. 15, ll. 38-44.) The two modes provide for easier control and more flexible control. (*See* col. 1, ll. 7 to col. 2, l. 2; col. 23, ll. 56-58.) To accomplish pattern control, an identification unit stores motion vector sequences corresponding to basic motion for comparison purposes. (Col. 2, ll. 32-56.)

3. Ide discloses how to change from the pointer mode to the motion pattern input mode as follows:

> To change from the pointer function mode to the motion pattern input mode, the following operation is necessary. For example, (1) The cursor is placed in a certain position (the area where various tools can be selected, or the area where a menu is selected), (2) [T]he motion pattern input start button is pressed, and (3) Predetermined simple movements (e.g., waving up and down several times) are made.

(Col. 22, ll. 26-33.)

4, To change back to the pointer function, Ide discloses three "example" methods, (1) automatic change after a time period elapses, (2) automatic change after no device movement, and (3) manual change by pressing a button. (Col. 22, ll. 34-41.)

5. After entering the motion pattern input mode from the pointer mode: (1) The cursor is erased from the screen, but its coordinates are saved so that upon entry back into the pointer mode the operator can resume work at that former coordinate position. (2) The cursor moves over the screen to correspond to mouse movements to provide feedback. (3) The cursor changes forms to show which mode the user is in. (Col. 22, ll. 42-59.) "It is possible to combine some of these." (*Id*. at ll. 59-60.)

Lapidot

6. Lapidot discloses a portable hand-held device with a display, having communication functions (e.g., cellular telephone, personal communicators, radios, GPS units, and other Internet based devices) controlled by moving the device. For example, specific movements are employed to turn the device on and off, to scroll information presented in the device's display, or to zoom an image in the device. (Abstract; 1:21-27; Fig. 1.)

7. Lapidot teaches that the motion control advantageously replaces traditional keyboards on small devices because "there may not be sufficient space for conveniently locating multiple keys, and the use of multiple keys may be confusing and difficult to remember." (2:10-13; *accord* 1:28-35.)

8. Lapidot's device "also relates to hand-held remote control units that are used to control the function of other devices that are not by themselves portable, such as a TV set, video player or a DVD unit." (2:32-35.)

9. The device control for changing display information depends "in general on the direction and magnitude of the movement of the device from its previous position to its new position, including in general both translation in space and rotational movements." (7:18-22.) Lapidot's device can be disabled with a neutral switch N so that movements do not control functions of the device. (9:30-35.)

Appellants' Specification

10. Appellant describes different ways to change modes:

> To facilitate this flexibility of the handheld device in recognizing multiple input modes, in particular embodiments a

certain trigger may be used to switch between input modes. For
example, a user may press a particular key or may move the
device in a certain manner (e.g., a particular gesture) to switch
input modes. In some cases where an application of the device
recognizes and functions based upon multiple types of motion
input, a particular key may be pressed or a particular gesture
may be formed using the device to switch between a translation
motion input mode and a gesture motion input mode. The
trigger may also comprise the mere switch from one application
to another or the switch from one displayed image to another.
In some situations, the trigger may switch between a non-
motion input mode and a motion input mode. Any particular
user-action may be implemented to act as a trigger to switch
between different input modes, such as between different
motion input modes. In some embodiments, a voice command
or physical action upon the device (e.g., a device or screen tap)
may be utilized to switch input modes.

(Spec. 21:19-32.)

PRINCIPLES OF LAW

The Examiner bears an initial burden of factually supporting any
rejection. Appellants may rebut the Examiner's findings with opposing
evidence or argument. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir.
1992). Appellant has the burden on appeal to present arguments showing
reversible error by the Examiner in maintaining the rejection. *See* 37 C.F.R.
§ 41.37(c)(1)(vii).

"[R]ejections on obviousness grounds cannot be sustained by mere
conclusory statements; instead, there must be some articulated reasoning
with some rational underpinning to support the legal conclusion of
obviousness." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007)
(citation omitted). Obviousness is determined on the basis of the evidence
as a whole and the relative persuasiveness of the arguments. *See Oetiker*,
977 F.2d at 1445.

ANALYSIS

Clams 1, 2, 5, 7, 9-11, and 14-20

Appellants' arguments with respect to the above-listed claims focus on independent claims 1, 10, 16, and 20, with particular emphasis on claim 1. (App. Br. 11-17.) Accordingly, independent claim 1 is selected as representative of claims 1, 2, 5, 7, 9-11, and 14-20. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants do not contest the Examiner's finding that Ide teaches all the elements of claim 1 except the display. Appellant also does not dispute that Lapidot provides for a display monitor on a similar control device. (*See* App. Br. 14; *accord* FF 1-9.) Rather, Appellants assert that Ide teaches away from the claimed invention because "Ide refers to its input device as a 'spatial control mouse' and . . . . [a] conventional mouse . . . does not include a built-in display" (App. Br. 14.) Appellant asserts that a conventional mouse controls another device like a computer that comprises its own display, and as such, the user would track cursor movement on the computer screen instead of on a (hypothetical) mouse screen. Appellants conclude that there would have been no motivation to place a screen on the mouse. (*Id.*)

Appellants' argument reduces to the assertion that because Ide does not disclose a display, Ide teaches away from a display. Failing to disclose an element does not amount to teaching away. Moreover, Lapidot at least suggests that the disclosed control device, disclosed as having a screen, is not only useful to control functions on that screen (FF 6), but is also useful to control other devices that also have a display (FF 8). This suggestion

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contradicts Appellants' assertion that there is no suggestion to control a device with a display via a mouse which also has a display.

Even without the suggestion noted, combining Ide's separate mouse and computer into one smaller hand-held device amounts to merely forming a more compact, unitary controllable device – i.e., a device such as Lapidot's having computer-type/communication functions and a display in one hand-held device. (*See* FF 1, 6, 7.) In support of this finding, Ide also suggests a self-controlled hand-held tool (FF 1), thereby bolstering the suggestion based on Lapidot's hand-held computer-type/communication device (FF 6, 7).

Moreover, the combination suggests a display because Lapidot teaches the display element and control using one mode, while Ide teaches similar control using two modes for enhanced control. (FF 2, 5, 6.) Replacing the single control mode of Lapidot with the two control modes of Ide would have amounted to a simple substitution of familiar elements and their established functions.

In other words, a "mere substitution," *KSR*, 550 U.S. at 416 (citation omitted), of Ide's dual-mode system for Lapidot's single mode control system would have yielded no more than a predictable result of enhanced automatic control. "[W]hen . . . the prior art . . . is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result." *Id.* As such, Appellant's have not demonstrated error in the rejection of claim 1, or of claims 2, 5, 7, 9-11, and 14-20, which fall therewith. *In re Nielson*, 816 F.2d 1567, 1572 (Fed. Cir. 1987).

Claims 3 and 12

Appellants' arguments focus on claim 3, hereby selected as representative of these claims. Claim 3 depends from claim 2 which depends from claim 1. Combining the claims shows that claim 3, in effect, reads as follows: "The motion controlled handheld device of Claim 1, wherein the mode selection trigger comprises a change of state of the device . . . . wherein the change in state of the device occurs when the device switches from a first application to a second application.

Appellants argue that "[t]here is no disclosure that a switch from a first application to a second application triggers the change in motion input modes." (App. Br. 18.) The Examiner states: "As to claims 2-3, Ide teaches the mode selection trigger comprises a change in state of the device and the change in the state of the device occurs when the device switches from a first application (Fig. 1) to a second application (Fig. 16)." (Ans. 5.)

Appellants also argue, citing *inter alia*, portions of columns 15 and 22, that Ide only teaches pressing a button to change modes. (App. Br. 18). The Examiner appears to equate changing modes (i.e., as indicated by Figures 1 and 15) with changing applications. Appellants' argument is more persuasive. (*See* FF 3-5.) The Examiner's interpretation, equating modes and applications, does not appear to be a reasonable interpretation of claim 3, which requires separate modes and applications. Accordingly, the Examiner's findings do not support a conclusion of obviousness with respect to claim 3 and similar claim 12.

Claims 4 and 13

Appellants' arguments focus on claim 4, hereby selected as representative of these claims. (App. Br. 18-19.) Claim 4, like claim 3, depends from claim 2 and requires a state change, but claim 4 requires the state change to occur when images switch. Claim 4 follows: "The motion controlled handheld device of Claim 2, wherein the change in the state of the device occurs when the current image switches from a first image to a second image."

Notwithstanding Appellants' argument that Ide only teaches pressing a button to change modes (App. Br. 18-19), Ide also teaches that pressing the button causes the mode cursor to disappear and a different cursor image to replace it. (FF 5.)

It is not clear how in claim 4, or how in Appellants' Specification, the image switches. (*See* FF 10.) The image may switch as a result of switching modes, and the mode may switch by use of a key. Claim 4 does not require that the image switch *causes* a change in state of the device – i.e., the claim is broad enough to allow the image switch to occur at the time that a change in state of the device occurs. The claim recites "the change in the state of the device occurs *when* the current image switches from a first image to a second image." In other words, in Ide and in claim 4, both events (the change in state and the image switch) occur substantially at the same time.

Therefore, Appellants have not presented a persuasive argument demonstrating that Ide does not teach the disputed limitation of claim 4 and similar claim 13.

Claim 6

Claim 6 follows: "The . . . device of Claim 1, wherein the mode selection trigger comprises one of the gestures." The gestures, according to claim 1, refer to recognized device motions. The Examiner cited Ide at column 22, lines 31-32 to teach these mode changing gestures. (*See* Ans. 5.) Ide teaches at the cited passage that after the button is pressed, "[p]redermined simple movements are made" to cause a mode selection. (FF 3.)

Appellant references these teachings in Ide, but nonetheless concludes that "[t]here is no disclosure of an actual gesture for triggering a switch in motion input modes." (App. Br. 19.) Appellant does not explain why these predetermined motions do not constitute actual gestures. According to claim 1, gestures are defined by a motion of the device. As Ide's device recognizes these motions as predetermined by comparing them to saved motion vectors (*see* FF 2, 3), it follows that Ide's device reasonably employs saved "gestures" according to the claim, even though Ide does not refer to the saved vector patterns as "gestures." (*See* FF 2.) Therefore, Appellants have not presented a persuasive argument demonstrating that Ide does not teach the disputed limitation of claim 6.

Claim 8

Appellant relies on arguments for claim 1 to show that "Claim 8 is patentable over Ide-Lapidot." (App. Br. 19 (emphasis removed).) The Examiner reasonably identified the elements of claim 8 as corresponding to Lapidot's neutral condition switch. (Ans. 5; *accord* FF 9.) Appellants do not dispute the Examiner's findings. Based on the foregoing discussion of claim 1, Appellants have not presented a persuasive argument demonstrating error

in the Examiner's finding that the combination of Ide and Lapidot renders obvious claim 8.

CONCLUSION

The combined teachings of Ide and Lapidot render obvious a display control module having a viewable display as required by the claims on appeal. The Examiner did not err in the finding that Ide and Lapidot collectively render obvious the disputed limitations of claims 4, 6, 8, and 13, but the Examiner did err with respect to the disputed limitations of claims 3 and 12.

DECISION

We affirm the Examiner's decision rejecting claims 1-2, 4-11, and 13-20. We reverse the Examiner's decision rejecting claims 3 and 12.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136. *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

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